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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,949	03/15/2004	Shinichi Shirahama	8305-239US (NP149-1)	4470

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EXAMINER
MCAVOY, ELLEN M

ART UNIT	PAPER NUMBER
1797	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/800,949	SHIRAHAMA ET AL.	
	Examiner	Art Unit	
	Ellen M. McAvoy	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 November 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,5 and 8-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5 and 8-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 5 and 8-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasunori et al (6,323,162) in combination with Dasai (5,064,546) or Ichihashi et al (5,792,731).

Applicants' arguments filed 03 November 2008 have been fully considered but they are not persuasive in view of the newly added reference to Yasunori et al ["Yasunori"]. Yasunori disclose a lubricating oil composition for internal combustion engines which is comprised of (a) a major amount of mineral base oil having a sulfur content of 10 ppm or less, (b) a zinc dialkyldithiophosphate in an amount of 0.04 to 0.1 wt % in terms of a phosphorus content, (c) a metallic detergent selected from an overbased calcium phenate and an overbased calcium sulfonate having a total base number (TBN) in the range of 100 to 400 mg KOH/g, wherein the detergent component contains calcium carbonate (column 6, lines 43-44, and column 7, lines 28-29), and (d) a polyalkenyl succinimide of either the mono-type or the bis-type which may be treated with a boron compound. See column 3, line 46 to column 9, line 13. Yasunori teaches that the lubricating oil composition may be used in internal combustion engines such as diesel engines equipped with an exhaust gas after-treatment system. See column 1, lines 6-15. Applicants' open-ended claim language "comprising" allows for the addition of other additives to the oil compositions such as the additional components of the prior art compositions. Yasunori teaches that the lubricating oil compositions may contain other auxiliary additives such

as phosphate esters, phosphite esters and phosphate amines as antiwear agents; and phosphate ester, phosphite ester and amine salts of phosphate esters as friction reducing agents. Yasunori teaches that the additives can be incorporated into the lubricating oil compositions in an amount ranging from 0.05 to 3 weight %. See column 9, lines 41-60. Applicants' invention set forth in independent claims 1, 2 and 18 differs from Yasunori by further including component (D), a phosphorus-containing ashless anti-wear agent comprising amine phosphite salts of phosphorous acid esters. However, such amine phosphite salts are known in the art as friction modifiers as evidenced by Dasai, and as extreme pressure/anti-wear agents as evidenced by Ichihashi et al ["Ichihashi"].

Dasai discloses a lubricating oil composition comprising a base oil and from 0.01 to 5% by weight of a friction modifier which includes amine salts of phosphoric acid esters and amine salts of phosphorous acid esters which are represented by formulae (I), (II) and (III) in column 3. Phosphites are represented by formula (III) and the amine salts include oleylamines. See col. 4, lines 3-13. Ichihashi disclose a lubricant composition comprising a phosphorus-based extreme pressure additive which includes phosphite esters and phosphate esters and amine salts thereof. See column 3, lines 55 to column 4, line 58. Oleylamine is set forth in line 36. Thus having the prior art references before the inventors at the time the invention was made it would have been obvious to have added the amine phosphite salt of Dasai or Ichihashi to the oil composition of Yasunori if the additive's known imparted properties were so desired. The results set forth in the Declaration have been carefully considered; however, the examiner is of the position that it would be expected that differing anti-wear agents (phosphites and amine phosphate salts) would

have differing results in anti-wear performance. The examiner is of the position that the results presented are not sufficient to rebut the established *prima facie* case of obviousness.

Claim Rejections - 35 USC § 103

Claims 1, 2, 5 and 8-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yagishita et al (6,306,801) in combination with Yasunori et al (6,323,162) and Dasai (5,064,546) or Ichihashi et al (5,792,731).

Applicants' arguments filed 03 November 2008 have been fully considered but they are not persuasive. As previously set forth, Yagishita et al ["Yagishita"] disclose a lubricating oil composition suitable for use as a diesel engine oil which comprises a major amount of a lubricating base oil selected from mineral oils and synthetic oils and, as additives, (A) 0.5 to 20% by mass of acylated bissuccinimide which may be modified with a boron compound, (B) 0.05 to 0.3 % by mass of zinc dithiophosphate in terms of the phosphorus content, and (C) 0.5 to 4.0 % by mass of metallic detergent in terms of the sulfated ash content, based on the total mass of the composition. See column 1, line 43 to column 2. Yagishita teaches that the metallic detergent component may be an overbased alkaline earth metal sulfonate or phenate having a total base number of 100 to 450 mgKOH/g. See column 9. Further, Yagishita teaches that the metallic detergent component may be alkaline earth metal, i.e., calcium, carbonate-containing overbased salts. See column 10, lines 44-48. Applicants' invention differs by adding a phosphorus-containing ashless antiwear agent to the lubricating oil compositions. However, Yagishita allows for the addition of known additives to the compositions including antiwear agents. As set forth above, Yasunori teaches that the lubricating oil compositions, which are suitable for use as

diesel engine oils, may contain other auxiliary additives such as phosphoric acid esters, phosphorous acid esters and organic amide compounds, such as oleylamide, in amounts ranging from 0.001 to 3 weight %. The examiner maintains the position that it would have been obvious to the skilled lubricating oil formulator to have added any conventional engine oil additive to the lubricating oil compositions of Yagishita if the known imparted properties were so desired. Applicants' invention set forth in independent claims 1 and 2 has been amended to include that component (D), the phosphorus-containing ashless anti-wear agent, is selected from the group consisting of amine phosphite salts of phosphorous acid esters. However, such amine phosphite salts are known in the art as friction modifiers as evidenced by Dasai, and as extreme pressure/anti-wear agents as evidenced by Ichihashi et al ["Ichihashi"].

Dasai discloses a lubricating oil composition comprising a base oil and from 0.01 to 5% by weight of a friction modifier which includes amine salts of phosphoric acid esters and amine salts of phosphorous acid esters which are represented by formulae (I), (II) and (III) in column 3. Phosphites are represented by formula (III) and the amine salts include oleylamines. See col. 4, lines 3-13. Ichihashi disclose a lubricant composition comprising a phosphorus-based extreme pressure additive which includes phosphite esters and phosphate esters and amine salts thereof. See column 3, lines 55 to column 4, line 58. Oleylamine is set forth in line 36. Thus having the prior art references before the inventors at the time the invention was made it would have been obvious to have added the amine phosphite salt of Dasai or Ichihashi to the oil composition of Yagishita if the additive's known imparted properties were so desired. The results set forth in the Declaration have been carefully considered; however, the examiner is of the position that it would be expected that differing anti-wear agents (phosphites and amine phosphate salts) would

have differing results in anti-wear performance. The examiner is of the position that the results presented are not sufficient to rebut the established *prima facie* case of obviousness.

Applicants argue that Yagishita does not teach or suggest the use of a boron-modified bis-type polybutenyl succinimide dispersant as claimed. This is not deemed to be persuasive because Yagishita does in fact teach that derivatives of the bis-succinimide component may be used including boron-modified bis-succinimides with a boron compound such as boric acid, boric acid salt or boric acid ester. See column 7, lines 39-57. Applicants argue that Yagishita only teaches an amount of metal detergent to be used in terms of sulfated ash, but does not teach or suggest the sulfated ash content on the basis of the composition. Applicants point to the examples in Yagishita and argue that the sulfated ash considerably exceeds the claimed sulfated ash content in the composition of 0.4 to 0.8 mass %. This is not deemed to be persuasive because, as set forth above, Yagishita teaches that the lubricating oil composition contains 0.5 to 4.0 % by mass of metallic detergent in terms of the sulfated ash content, based on the total mass of the composition, which overlaps the claimed range for sulfated ash content.

Applicants' amendments necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M. McAvoy whose telephone number is (571) 272-1451. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ellen M McAvoy/
Primary Examiner
Art Unit 1797

EMcAvoy
January 13, 2009